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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/591,554	10/09/2006	Christophe Sommer	13146-00005-US	4786
23416 7590 11/27/2007 CONNOLLY BOVE LODGE & HUTZ, LLP P O BOX 2207 WILMINGTON, DE 19899			EXAMINER NWAONICHA, CHUKWUMA O	
			ART UNIT 1621	PAPER NUMBER
			MAIL DATE 11/27/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/591,554	SOMMER, CHRISTOPHE	
	<b>Examiner</b>	<b>Art Unit</b>	
	Chukwuma O. Nwaonicha	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION**

**Current Status**

1. Claims 1-10 are pending in the application.

**This application is a 371 of PCT/EP05/01282 02/09/2005.**

**Priority**

Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Belt et al., {US 6,706,090}.

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Applicants claim a process for removing carbon dioxide from sulphuryl fluoride, comprising the step of contacting the carbon dioxide-containing sulphuryl fluoride with 4 Å molecular sieve as claimed by applicants; wherein the variable A is as defined in the claims; wherein all the other variables are as defined in the claims.

**Determination of the scope and content of the prior art (M.P.E.P. §2141.01)**

Belt et al. teach a method for the recovery or separation of sulfur oxyfluorides ( $\text{SO}_2\text{F}_2$  or  $\text{SO}_2\text{F}$ ) from gas mixtures, in which the air, exhaust air or gas mixture passes through at least one adsorption stage or membrane stage containing or consisting of zeolites with a pore diameter of 0.4 to 0.4 nm. The process is conducted at a pressure of 15 atmosphere and a temperature of 21°C, and it is a continuous operation. The air, which is depleted in  $\text{SO}_2\text{F}_2$  from the gas mixture, can then be discharged into the atmosphere. See columns 1-5.

**Ascertainment of the difference between the prior art and the claims (M.P.E.P. §2141.02)**

Applicants claimed process for removing carbon dioxide from sulphuryl fluoride, differs from the prior arts teaching in that the prior art teach a process wherein the  $\text{SO}_2\text{F}_2$  is absorbed by the absorber while Applicants claim a process wherein carbon dioxide-containing sulphuryl fluoride is pass through a 4 Å molecular sieve. Applicants are silent about which component of the mixture is being absorbed by the absorber.

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**Finding of prima facie obviousness--rational and motivation (M.P.E.P.. §2142-2143)**

The instantly claimed process of purification of sulphuryl fluoride would have been suggested to one of ordinary skill because one of ordinary skill wishing to obtain a purified sulphuryl fluoride is taught to employ the process of Belt et al. One of ordinary skill in the art would have been motivated to practice the teaching of the reference cited because it demonstrates that purification of sulphuryl fluoride can be achieved by the use of zeolites (molecular sieve).

It should be noted that all the claimed elements were known in the prior art and one skilled in the art could have combined the elements as claimed by known methods with no change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in art at the time of the invention. Therefore, the instantly claimed invention would therefore have been obvious to one of ordinary skill in the art.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chukwuma O. Nwaonicha whose telephone number is 571-272-2908. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne (Bonnie) Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chukwuma O. Nwaonicha, Ph.D.  
Patent Examiner  
Art Unit: 1621

  
 **ELVIS Q. PRICE, PH.D.**  
**PRIMARY EXAMINER**

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Yvonne (Bonnie) Eyler  
Supervisory Patent Examiner,  
Technology Center 1600